

## REMARKS

### I. Introduction

In response to the Office Action dated September 13, 2004, claims 1, 10, 11, 24, 25, 29, 38, 39 have been amended. Claims 1-42 remain in the application. Re-examination and re-consideration of the application, as amended, is requested.

### II. Non-Art Rejections

In paragraph (1) of the Office Action, claims 1 and 29 were objected to for missing the word "and" before the last element of each claim. Applicants have amended the claims accordingly and submit that this objection is now moot.

In paragraph (1) of the Office Action, claim 10 was rejecting for failing to comply with the enablement requirement in that the word "moding" was not clearly explained in the specification. Further, paragraph (2) of the Office Action rejected claims 10 and 11 for being indefinite. Applicant assumes the rejections of these claims was based on the use of the verb "moding" to indicate a "mod" operation was being performed. Applicants have amended the claims accordingly and submit that these rejections are now moot. Additionally, although claims 24, 25, 38, and 39 were not rejected, these prior claims also contained the word "moding". Accordingly, Applicants have also amended claims 24, 25, 38, and 39 to eliminate the use of the term "moding" replacing it with "performing a mod operation of". In view of the above, Applicants submit that the rejections are now moot.

### III. Prior Art Rejections

On page (3) of the Office Action, claims 1-7, 9, 10, 11, and 12-14 were rejected under 35 U.S.C. §103(a) as being unpatentable over Christy, U.S. Patent No. 6,725,264 (Christy) in view of Kalkunte et al., U.S. Patent No. 6,535,510 (Kalkunte). In paragraph (3) of the Office Action, claim 8 was rejected under 35 U.S.C. §103(a) as being unpatentable over Christy in view of Kalkunte and further in view of Vepa et al., U.S. Patent No. 6,560,630 (Vepa).

Specifically, the independent claims were rejected as follows:

As to claim 1, Christy teaches a method of providing a single system image in a clustered environment comprising:

assigning an internet protocol (IP) address as a cluster IP address (see col.3, lines 48-52, col. 8 lines 52-57 and fig. 4, Christy teaches the assignment of IP address to a cluster commander);  
 binding the cluster IP address to a node in a cluster ( see col. 3, lines 9 – 17, Christy teaches the binding of a cluster IP address to a node by assigning each device in a cluster a unique identifier);  
 receiving a client request directed to the cluster IP address( see col. 3 lines 27-32, Christy teaches the receiving of request by information exchange between management console and devices in cluster);  
 filtering the request based on a dynamically adjustable workload distribution function, wherein the function is configured to allow a single node to process the client request ( see col.4 line 59 – col. 5 line 9, Christy teaches filtering by forwarding the frame to a particular port );  
 obtaining a response to the request ( see col.6 line 40 – col. 5 , line 9 Christy teaches obtaining a respond to a request that is sent by NMS);  
 inserting a cluster media access control (MAC) address into the response ( see col.12 lines 2 – 9 and fig.2 and fig. 8 Christy teaches the insertion of MAC address by sending identification MAC address of a port and forwarding request to a cluster and receiving responses from member switches to management station);  
 sending the response from the single node to the client ( see col. 12 lines 10 – 15, Christy teaches sending the response from a node to a client where a member device processes a request and sends a response back to management control).  
 Christy does not explicitly teach the claimed limitation of multicasting the request.  
 Kalkunte teaches that the request is multicast to a trunked group (see col. 3 lines 42 – 45 and fig.4).  
 As per claims 15 –42, they contain similar limitations as claims 1 – 14, therefore are rejected under similar rationale.

Applicants traverse the above rejections for one or more of the following reasons:

- (1) Christy, Kalkunte, nor Vepa teach, disclose or suggest each node in a cluster containing a dynamically adjustable workload distribution function;
- (2) Christy, Kalkunte, nor Vepa teach, disclose or suggest each node in a cluster filtering a received request based on a function on the cluster; and
- (3) Christy, Kalkunte, nor Vepa teach, disclose or suggest a single node in a cluster (that obtained a response to a request) inserting a MAC address for a cluster into a response and sending the response to a client.

Independent claims 1, 15, and 29 are generally directed to the ability to provide a single system image in a clustered environment. More specifically, an IP address is used as an IP address for a cluster. The cluster IP address is then assigned to a particular node in a cluster. A client request directed to the cluster IP address is then received (e.g., at the particular node). The client request is then multicast to all of the nodes the cluster. Each node in the cluster has a dynamically adjustable workload distribution function. When the multicast request is received, each node runs the function to filter the request. Each node must execute the function b/c each and every node

receives the request since it has been multicast to every node. The function filters the request such that only one of the nodes in the cluster processes the client request. The single identified node obtains a response to the request and inserts the cluster MAC address (i.e., the MAC address for the cluster) into the response. By inserting the MAC address, the client will think that the response was returned from the cluster and not from an individual node within a cluster. The response is then sent to the client. Accordingly, the client merely sees a single system image of the entire cluster system while the individual nodes within the cluster perform filtering and obtain a response.

Applicants also note that original claim 15 has not been amended. Instead, claims 1 and 29 have been amended to more clearly indicate which steps are performed by each node in the cluster as originally set forth in claim 15. Accordingly, no new matter has been added that would necessitate a new search. In this regard, Applicants note that the filtering is performed by a function executing at each node once the request is received at the individual node. Further, the function allows a single node to process the client request. In addition, the individual node that processes the request obtains a response and inserts the MAC address for the cluster into the response that is sent back to the client.

The cited references do not teach nor suggest these various elements of Applicants' independent claims. Christy merely describes a method that manages a cluster of network devices each having an intra-cluster identifier. The method includes (a) selecting a plurality of network devices to form a cluster, (b) selecting a first network device to be a commander network device having a public IP address, each of the remaining network devices being a cluster member network device and having a non-public network address, (c) receiving at the commander network device a network management request message from a management console, the message including a source address field containing an IP address of the management console, a destination address field containing the IP address of the commander network device, a request identification field containing an original request identifier uniquely identifying the message, and an intra-cluster identifier, and (d) forwarding the message to the cluster member network device identified by the intra-cluster identifier using the non-public network address of the cluster member network device. (See Abstract).

In rejecting the claims, the Office Action relied on Christy col. 4, line 59-col. 5, line 9 to teach the filtering claim limitation. In this regard, the Office Action states that Christy teaches

filtering by forwarding the frame to a particular port. Applicants note that Christy may forward the request to a particular port. However, such forwarding is performed by forwarding logic 250 within an ethernet switch 200 (see Fig. 2 and col. 4, lines 22-65). Such forwarding logic that merely transmits the frame to a particular port is not even remotely equivalent to each port filtering a request using a function at each node. In other words, while Christy teaches a filtering by sending a frame to a particular port, the present claims sent the request to all nodes (e.g., all ports) and then each node determines if it is going to process the request using the distribution function. Thus, all nodes receive the request and each node then filters the request to determine whether it will process it or not. Again, such a teaching is not described, suggested, or alluded to, implicitly or explicitly in Christy or the other cited references.

The Office Action continues and relies on Christy col. 12, lines 2-9 and fig. 2 and fig. 8 for teaching the insertion of the MAC address into the response. In this regard, the Office Action states that Christy teaches the insertion of MAC address by sending identification MAC address of a port and forwarding request to a cluster and receiving responses from member switches to management station. However, such a teaching does not describe, suggest, or allude to, a node within a cluster inserting a MAC address for the cluster into the response (as claimed). Firstly, a MAC address of a particular port (as in Christy) is not equivalent to a MAC address that represents an entire cluster (as claimed) (instead of a single port). Secondly, Christy's insertion of the MAC address which is sent to a particular port is not even remotely equivalent to the port inserting a MAC address for a cluster into a response that is sent away from the port (i.e., to the client) (instead of to the port as in Christy) (as claimed).

The Office Action admits that Christy fails to teach the multicasting but relies on Kalkunte instead. Applicants note that regardless of whether Kalkunte teaches multicasting, Kalkunte fails to teach the specific limitations with regards to where the workload distribution function is located and performed, and the ability for a single node to insert a MAC address into a response. Such limitations provide specific advantages as described herein and set forth in detail in the specification.

Moreover, the various elements of Applicants' claimed invention together provide operational advantages over Christy, Kalkunte, and Vepa. In addition, Applicants' invention solves problems not recognized by Christy, Kalkunte, and Vepa.

Thus, Applicants submit that independent claims 1, 15, and 29 are allowable over Christy, Kalkunte, and Vepa. Further, dependent claims 2-14, 16-28, and 30-42 are submitted to be allowable over Christy, Kalkunte, and Vepa in the same manner, because they are dependent on independent claims 1, 15, and 29, respectively, and thus contain all the limitations of the independent claims.

In addition, dependent claims 2-14, 16-28, and 30-42 recite additional novel elements not shown by Christy, Kalkunte, and Vepa. In this regard, Applicants note that the limitations in the dependent claims are overlooked in the Office Action. For example, dependent claim 2 provides a method step of informing other nodes in the cluster of the cluster IP address and MAC address associated with the node that is bound to the cluster IP address. In other words, all of the nodes in the cluster are informed of the IP address for the cluster. The rejection merely provides that a cluster commander has an IP address and does not describe whether that IP address is forwarded or provided to any other nodes. In fact, Applicants submit that the commander's IP address is not submitted to the other nodes. Instead, the commander receives the request, determines a different address to send the request to and transmits the request accordingly. Such a description does not teach, describe, or suggest, implicitly or explicitly, informing other nodes of an IP address for a cluster and a MAC address for a particular node.

Similar to dependent claim 2, the other dependent claims also provide limitations that are not adequately addressed in the Office Action. Accordingly, Applicants submit that the dependent claims are allowable over the prior art.

IV. Conclusion

In view of the above, it is submitted that this application is now in good order for allowance and such allowance is respectfully solicited. Should the Examiner believe minor matters still remain that can be resolved in a telephone interview, the Examiner is urged to call Applicants' undersigned attorney.

Respectfully submitted,

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